

Risk Assessment for Permit Consolidation / Variation ELL/012

Introduction

The following risk assessment has been undertaken by Ellgia Ltd based the SRP Risk assessment in line with pre-planning advice ELL/001 paragraph 2. The risk assessment should be read in conjunction with the non-technical summary ELL/002, the description of activities and proposed variations ELL/003 and list of permitted wastes ELL/015.

The activities on site will not change because of the permit consolidation / variation. The primary reasons for the application are to simplify the permitting into a single modern style permit and add an installation due to the volumes of RDF and SRF being produced.

The key parameter of the existing permits

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| Permitted activities | The storage and repackaging of waste and treatment consisting of manual sorting, separation, screening, baling, shredding, crushing, or compaction see ELL/003 |
| Permitted waste types | Non-hazardous Household, Commercial and Industrial Waste see ELL/015 |
| Maximum quantity of waste accepted at the facility | 237,000 tonnes per year across three permits see ELL/006a and ELL/015 |
| Maximum quantities of waste stored on site | 69,090 tonnes across three permits see ELL/006a and ELL/015 |

Coding

| Levels | Probability of Exposure | Judgement | |
|----------|-------------------------|-------------|-------------------|
| | | Consequence | Magnitude of Risk |
| Very low | | | |
| Low | | | |
| Medium | | | |
| High | | | |

Risk Assessment

| Data and information | | | | Judgement | | | Action (by permitting) | | |
|--|--|--|---|-----------------------------|---|--|--|--|---|
| Receptor | Source | Harm | Pathway | Probability of exposure | Consequence | Magnitude of risk | Justification for magnitude | Risk management | Residual risk |
| What is at risk? What do I wish to protect? | What is the agent or process with potential to cause harm? | What are the harmful consequences if things go wrong? | How might the receptor come into contact with the source? | How likely is this contact? | How severe will the consequences be if this occurs? | What is the overall magnitude of the risk? | On what did we base our judgement? | How can I best manage the risk to reduce the magnitude? | Magnitude of the risk after management ¹ |
| Local human population | Releases of particulate matter (dusts) and or micro-organisms (bioaerosols). | Harm to human health - respiratory irritation and illness. | Air transport then inhalation. | Medium | Medium | Medium | Site does not generally accept dusts, powders, or loose fibres but the treatment activities will produce particulate matter, there is potential for exposure if anyone is living or working close to the site (apart from the operator and employees) however there are no residential receptors in the immediate vicinity of the site and the prevailing wind is westerly and land to the East is unoccupied, therefore a medium magnitude risk is estimated. | Site is not located within an AQMA. All shredding takes place inside buildings. Compliance with site Environmental Management System (EMS) including emissions management plan. Long term increases in particulate levels are restricted by permit - treatment of specified wastes shall be carried out inside a building. | Low |
| Local human population | As above | Nuisance - dust on cars, clothing etc. | Air transport then deposition | Medium | Low | Low | Residents could be sensitive to dust, but prevailing wind is away from occupied receptors | Site is not located within an AQMA SR. Implementation of fugitive emissions management plan (FEMP). Long term increases in particulate levels are restricted by permit. | Low |

¹ This residual risk will be controlled by Compliance Assessment).

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|--|---|---|--|-------------------------|-------------|-------------------|--|--|---------------|
| Receptor | Source | Harm | Pathway | Probability of exposure | Consequence | Magnitude of risk | Justification for magnitude | Risk management | Residual risk |
| Local human population, livestock, and wildlife. | Litter | Nuisance, loss of amenity and harm to animal health | Air transport then deposition | Low | Medium | Low | Residents could be sensitive to litter, but prevailing wind is away from occupied receptors | As above. Appropriate measures include clearing litter arising from the activities from affected areas outside the site and implementation of the Severe Weather Procedure EM-02-15 | Low |
| Local human population | Waste, litter, and mud on local roads | Nuisance, loss of amenity, road traffic accidents. | Vehicles entering and leaving site. | Medium | Medium | Medium | Road safety, residents could be sensitive to mud on roads. Site is located in industrial area. | As above. Appropriate measures include clearing waste, litter and mud arising from the activities from affected areas outside the site. The site has a dedicated road sweeper which is employed daily to clean site roads and impermeable surfaces thereby minimising the potential for vehicles to leave site with mud on wheels. | Low |
| Local human population | Odour | Nuisance, loss of amenity | Air transport then inhalation. | Medium | Medium | Medium | Local residents often sensitive to odour. | Emissions shall be free from odour. Odour will be restricted by permit. An odour monitoring plan is included in the EMS, EM-03-003. If odour emissions are detected an odour management plan will be implemented. | Low |
| Local human population | Noise and vibration | Nuisance, loss of amenity, loss of sleep. | Noise through the air and vibration through the ground. | Medium | Medium | Medium | Local residents often sensitive to noise and vibration | Emissions shall be free from noise and vibrations. Noise and Vibrations will be restricted by permit. A noise and vibration monitoring plan are included in the EMS, EM-03-004. If noise or vibrations are detected a noise and vibration management plan will be implemented. | Low |
| Local human population | Scavenging animals and scavenging birds | Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity. | Air transport and over land | Medium | Medium | Medium | Permitted wastes may attract scavenging animals and birds. Specified low-risk wastes stored outside may become nesting / breeding sites. | Emissions of substances not controlled by emission limits (including those from scavenging animals, scavenging birds and other pests) shall not cause pollution. Access to waste is restricted by containment in buildings. The site employs regular vermin control contractors | low |
| Local human population | Pests (e.g., flies) | Harm to human health, nuisance, loss of amenity | Air transport and over land | Medium | Medium | Medium | Insect pests can multiply on permitted wastes, particularly in summer months | Emissions of substances not controlled by emission limits (including those from scavenging animals, scavenging birds and other pests) shall not cause pollution. Access to waste is restricted by containment in buildings. The site employs regular vermin control contractors | Low |
| Local human population and local environment | Flooding of site | If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream. | Flood waters | Very low | Medium | Low | The location, topography and drainage system of the site would make it almost impossible for waste to be washed off site. Permitted waste types largely non-hazardous so any waste washed off site will add to the volume of the local post-flood clean-up workload, rather than the hazard. | Management system will include flood risk management. Waste washed off site restricted by permit (emissions of substances not controlled by emission limits - buildings). | Very low |
| Local human population and / or livestock after gaining unauthorised access to the waste operation | All on-site hazards: wastes; machinery and vehicles. | Bodily injury | Direct physical contact | Medium | Medium | Medium | Permitted waste types are overwhelmingly non-hazardous so only a medium magnitude risk is estimated. | Activities shall be managed and operated in accordance with the Environmental Management System (EMS) including 24/7 site security measures to prevent unauthorised access). Access to waste restricted. All personnel, visitors and contractors must wear appropriate PPE. | Low |
| Local human population and local environment. | Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land. | Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. | Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches. | Medium | Medium | Medium | Permitted waste types do not include sludges or liquids and are overwhelming non-hazardous so only a medium magnitude risk is estimated. | As above, and site will be covered by FPP, including drainage system which allows all firewater runoff to be captured in interceptors and or drainage pond which can be isolated by penstock valve. | Low |

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| Receptor | Source | Harm | Pathway | Probability of exposure | Consequence | Magnitude of risk | Justification for magnitude | Risk management | Residual risk |
| | | Pollution of water or land. | | | | | | | |
| Local human population and local environment | Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land. | Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land. | As above. | Medium | Medium | Medium | Risk of accidental combustion of waste is moderate. | As above, permitted activities do not include the burning of waste. | Low |
| All surface waters close to and downstream of site. | Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g., containing suspended solids. | Acute effects: oxygen depletion, fish kill and algal blooms | Direct run-off from site across ground surface, via surface water drains, ditches etc. | low | Medium | Medium | Permitted waste types do not include sludges or liquids so only a medium magnitude risk is estimated. There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain. | All liquids shall be provided with secondary containment... (Applies to non- wastes such as fuels). Run-off restricted by emissions of substances not controlled by emission limits – buildings. All run off enters the drain age system via interceptors which can be isolated in the event of a spillage incident. | Very low |
| All surface waters close to and downstream of site. | As above | Chronic effects: deterioration of water quality | As above. Indirect run-off via the soil layer | Medium | Low | Low | As above, harm is likely to be temporary and reversible. | As above | Low |
| Abstraction from watercourse downstream of facility (for agricultural or potable use). | As above | Acute effects, closure of abstraction intakes. | Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction. | Medium | Medium | Medium | Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contaminated run-off. | As above. Also the activities shall not be carried out within 50m of any well, spring or borehole used for the supply of water for human consumption. | Low |
| Groundwater | As above | Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole. | Transport through soil/groundwater then extraction at borehole. | Medium | Medium | Medium | There is a potential for contaminated rainwater run-off or leachate from permitted waste types. | As above, or within 50m of any well, spring or borehole used for the supply of water for human consumption. | Low |
| Local human population | Contaminated waters used for recreational purposes | Harm to human health - skin damage or gastro-intestinal illness. | Direct contact or ingestion | Low | Medium | Low | Unlikely to occur but might restrict recreational use. | Permit (emissions of substances not controlled by emission limits - buildings). Emissions management plan will be implemented if required. | Very low |
| Protected sites - European sites and SSSIs | Any | Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc. | Any | Low | Medium | Medium | Waste operations may cause harm to and deterioration of nature conservation sites. | Permit (emissions of substances not controlled by emission limits - buildings). Activities shall not be carried out within 500m of a European Site or SSSI. (Distance criteria as agreed with Natural England/Countryside Council for Wales). | Low |

| Data and information | | | | Judgement | | | Action (by permitting) | | |
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| Receptor | Source | Harm | Pathway | Probability of exposure | Consequence | Magnitude of risk | Justification for magnitude | Risk management | Residual risk |
| Local human population and all surface waters close to and downstream of site. | Serious Fire | Nuisance, harm to human health, loss of amenity, deterioration of water quality | Air transport then inhalation or deposition. Direct run off of fire water across site to surface waters. | Low | High | Medium | Waste fires are not common but approximately 300 fires pa linked to waste activities. Impact on health and amenity can be significant for many days or weeks. | Fire Prevention plan, including firewater run of containment procedures. | Low |
| All surface waters close to and downstream of site. | Serious Fire | Loss of amenity, deterioration of water quality | Direct run off of fire water across site to surface waters. | Low | High | Medium | Waste fires are not common but approximately 300 fires pa linked to waste activities. In event of fire, fire water can be produced for days/ weeks. Contaminated firewater run-off can kill fish and aquatic life. | Fire Prevention plan, including firewater run of containment procedures. | Low |